

White Author's Comp

Tr 612
The President's Address

ON

THE MEDICAL HISTORY OF CARLISLE,

*Delivered at the Sixty-fourth Annual Meeting of the British Medical
Association, held in Carlisle, July, 1896,*

BY

HENRY BARNES, M.D.

Physician to the Cumberland Infirmary, Carlisle.



Reprinted for the Author from the BRITISH MEDICAL JOURNAL, August 1st, 1896.

LONDON:

PRINTED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

1896.



PRESIDENT'S ADDRESS,
DELIVERED AT THE
SIXTY-FOURTH ANNUAL MEETING OF THE BRITISH
MEDICAL ASSOCIATION,

BY
HENRY BARNES, M.D., F.R.S. EDIN.,
Physician to the Cumberland Infirmary, Carlisle.

THE MEDICAL HISTORY OF CARLISLE.

THE first duty which devolves upon me is to express my sense of the great honour you have conferred upon me. It is assuredly a distinction of no common kind to be elected President of the British Medical Association, the largest and most powerful medical Association which the world has ever known. Having its origin in a small provincial city sixty-four years ago, it has grown and prospered, and it now numbers among its members all that is most distinguished and eminent in our profession. It has spread its influence not only over the British Isles and the Colonies, but also wherever the English language is spoken; and it includes in its ranks a large proportion of the medical officers of the public services, as well as many representative members in every quarter of the globe. When I look back to the long list of eminent men who have preceded me in this position, my mind is filled with misgivings. The list includes names of men distinguished alike for their high literary and professional attainments. The only claim which I can advance is that I have worked for the British Medical Association for nearly thirty years. This has led my professional brethren in the Border Counties Branch to nominate me for the office, and their choice having been confirmed by the Council of the Association, it remains for me to show that I have merited the confidence reposed in me by steadily and earnestly endeavouring to discharge the onerous duties which may devolve upon me in such a manner as shall be conducive to the best interests of this great Association.

In the next place I have to offer a hearty and cordial welcome to you all. This I do in the name of my fellow citizens, and on behalf of the members of the Border Counties Branch. I hope that your visit to this ancient and Royal city will be a profitable and a pleasant one. I can assure you that during the last few months all the members of the local Executive Committee, as well as the members of the various Subcommittees, have been using every effort to make the

arrangements as complete and convenient as possible. The members of the Border Counties Branch who initiated the proposal to invite the Association to hold its annual meeting this year in Carlisle, adopted for their motto that of the city in which you are now assembled. "Be Just and Fear Not" are words of courage and strength. We have carried on our work as a Branch for 28 years; many of us have attended meetings of the Association in other parts of the United Kingdom; but hitherto we have hesitated to invite the Association to honour us with a visit. We did not enter into this matter without due consideration. We desire to show that the feeling of attachment and loyalty to the great principles which have made the Association so prosperous and influential are as strong and genuine in the smaller Branches; we wish to reciprocate the friendly welcome which we have received in other places; and we desire to show that it is possible for a useful and successful meeting to be held in less populous centres than has been customary in recent years. Last year the Association met in the largest city of the world, and under the guidance of the acknowledged leaders of medicine in this country. It was the first occasion on which our Presidential chair had been filled by a President of the Royal College of Physicians, and the occasion was a memorable one in our history. The address which Sir Russell Reynolds then delivered was his last important public utterance, and the eloquent words in which he sketched out the objects of the Association, and the manner in which these objects can best be achieved, ought to be ever before our minds. By carrying out his advice we shall be doing the greatest honour to his memory. The great purpose which has caused such a large body of men to come together under one common name was, as he said, "to render our profession of the highest service, not only to the individual but to the State, by taking our share and giving our advice in the framing of our laws, so far as they affect us, as members of our profession; by the regulation of our charities; the guidance and control of labour; the care of the pauper and the pauper child, the lunatic and the quasi-lunatic, or the habitual drunkard; by the care of our poorer brethren, by the advance of scientific researches, and especially of those that require combined efforts and combined funds for their prosecution; by the promotion of useful and stable literature; and by the elevation of all that constitutes the education of the man of science, the physician, the surgeon, or the guardian of the public health."

We must all agree with him that those noble purposes cannot be achieved without some self-sacrifice, as well as the sacrifice of time; and we would do well to remember his urgent entreaty to us to avoid waste of time: "We may use it or sacrifice it freely, but we cannot afford to throw away one moment; whether it be on personal ends, forlorn hopes, foregone conclusions, or threshed-out heaps of seedless fagots."

The same purposes which brought us together in London last year brings us together again to-day. Let us show that these pregnant words have borne fruit, and have stimulated us to fresh exertions in the great work so forcibly put before us. We are now assembled in one of the smallest cities of England, in a city with a population of only 40,000, but to the

lover of the beautiful in Nature no better centre, I venture to say, could be found in the British Islands. During the week, and especially on the day devoted to excursions, opportunities will be afforded to all who may feel inclined to visit many places of great historic interest and view some of the grandest and most picturesque scenery both in the north of England and south of Scotland.

THE CITY OF CARLISLE.

Carlisle is an ancient and Royal city. It is a parliamentary and municipal borough, the county town of Cumberland, and the see of a bishop. There is probably no English city which has a more distinctive character, and none can claim to have borne its character so continuously through the course of English history. It is still known as "the Border City," but the title has no longer any significance. It can trace back its origin to times of venerable antiquity; it is the only town in England which bears a purely British name, and it is the only town which has been added to England since the days of the Norman Conquest. It occupies a site on the southern bank of the river Eden, the middle of which forms the municipal and parliamentary boundary of the city on the north, while the rivers Petteril and Caldew, two of the largest tributaries of the Eden, flow through the city from the south. Built upon a hill gently sloping towards the south, but with an abrupt fall towards the Eden, the position of the city offers many advantages. Being nearly surrounded by rivers, the site was readily capable of being fortified, and there is abundant evidence that it was a place of some importance before the Roman invasion. When the Romans under Agricola first reached this part of our island they found the place occupied by a tribe of Brigantes, and the survival of the British name is of interest. *Caer Lywelyd*, the town of *Lywelyd*, became *Lugubalia* during the Roman occupation. The Romans trampled down the rude defences of the Brigantes, and fixed their outpost on the northern bank of the river where the village of Stanwix now stands. This afterwards became a station on the great barrier of Hadrian. For more than three hundred years the Romans occupied this portion of Britain, and the soil in every part of the town teems with Roman and Romano-British remains. After the Romans left Britain *Lugubalia* became a place of some importance as the capital of the Northumbrian Britons, and was known as *Caerluel*. About the year 876 it was overthrown by the Danes, and for two centuries it remained a place of desolation and ruins; its streets, walls, and towers were covered with vegetation, and forest trees grew to maturity amidst its fallen masonry. In 1092 William Rufus, observing its beautiful situation and its great strategic importance as a frontier town, gave orders that it should be rebuilt and colonised by South Britons, who reclaimed portions of the wild forest of Inglewood, and taught the natives how to cultivate the naturally fertile plains of Cumberland. In 1132 Henry I completed what William Rufus had begun and erected Carlisle into an episcopal see. From this time forward down to 1745 many scenes of pomp and change were witnessed in the city; kings, princes, mighty warriors, and mitred abbots visited and dwelt within its walls. Many parliaments were held here, and it was the battle ground of contending armies. It was a favourite residence of Edward I.

Here he came to rest after his Scottish campaigns, and in the neighbouring forest of Inglewood he enjoyed the pleasures of the chase.

For centuries the city continued to be an important military station, and it suffered on many occasions from the vicissitudes of war. About the year 1597 the population was computed at 6,000; in 1688 it was estimated at 5,060; in 1763 the inhabitants were numbered, on the suggestion of Bishop Lyttleton, and found to be 4,158. In 1780 they were carefully enumerated, under the personal direction of Dr. Heysham, and were found to have increased to 6,299. At the beginning of the present century the population was 9,521, and since then it has increased about 10,000 every thirty years.

It is now a great railway centre, and owes a good deal of its present prosperity to railway enterprise. It may be classed as a residential town, there being comparatively few manufactories. It is generally considered a clean, well paved, and well lighted town, and in recent years much has been done to improve its sanitary condition. You will have opportunities of seeing some of our local manufactures, which have rightly achieved a world-wide reputation, and some buildings of great historic interest will doubtless attract your attention. The Cathedral and the Castle, parts of which are distinctly Norman, and some portions of the ancient walls remain to tell the tale of former greatness, and near to them is placed a modern building which will amply repay a visit. Locally it is known as Tullie House, and in its present purpose it is a creation of the enterprise of the citizens of Carlisle of recent years. Within its walls are to be found a school of art, an art gallery, a museum, a free library, a reference library, and the nucleus of a technical school including a chemical laboratory. In the museum will be found a good local collection of Roman and Romano-British antiquities, a creditable collection of British birds, the Harkness geological collection, and many other objects of interest. In the art gallery there is a loan collection of pictures by Sam Bough, a distinguished artist, who was a native of Carlisle.

In the vestibule of Tullie House are to be found some objects of special interest to members of our profession. These include several pictures of considerable merit by an eminent surgeon of Exeter, Mr. J. White Abbot, who attained the distinction of being elected Hon. R.A. Here also is to be found the only copy in existence of the Cameron monument. This monument arose out of a painful episode in the Scottish Rebellion of 1745. Dr. Archibald Cameron acted as surgeon to the rebel forces in the last struggle of the Stuarts on the field of Culloden, and after the battle he escaped to the Continent. Thinking he might safely return after seven years of exile, he came back to Scotland, but was arrested, taken to London, tried, and executed. A century later one of his descendants employed Musgrave Lewthwaite Watson, a distinguished Cumbrian artist, to design a fitting memorial, which was placed in the Savoy Chapel, London, but was destroyed by fire in 1864. The monument represents the surgeon actively engaged in his professional duties on the field of battle, and is well worthy of a careful study.

MEDICAL HISTORY OF CARLISLE.

With this brief sketch of the general history of Carlisle I must be content, and pass on to matters of medical interest

and importance connected with it. In doing so I shall have to tell you of those who have practised our art, of those eminent Cumbrians who have contributed to the advance of our science, and of the conditions of life which existed at various periods. I have already alluded to the Roman occupation. The question as to whether the Roman armies were provided with medical officers is one which has not received much attention from archæologists. In many of the works on Roman antiquities there is no allusion whatever to it. There does not exist in the Roman classics any very distinct reference to the subject. The practice of medicine was not much encouraged in the early days of Roman power, and its professors were not held in high esteem.

Pliny makes it a boast that his countrymen had done without doctors for six hundred years, and there do not seem to have been doctors of any kind in Rome until the later days of the Republic. The care of the sick and wounded was in all probability entrusted to the casual care of those whose tastes and inclinations led them to pay more than usual attention to the rude surgery which existed at the time.

In countries more ancient than that of Rome there are many allusions to the office of army physicians. Homer, Herodotus, and Pliny each comment on the fame of the medical men of Egypt, and Plato, when travelling in Egypt and falling sick, remarked that the Egyptians were all physicians. In the old classical literature of Greece there are abundant references to the signal surgical services rendered to the soldier in war. Homer describes the double character of army surgeons and warriors as being combined in the persons of Podalirius and Machaon, and so valuable and important were the services which physicians were able to render that he says:

The man of medicine can in worth with many warriors vie,
Who knows the weapons to excise and soothing salves apply.

The surgical treatment of disabled Greek warriors is minutely described in many parts of the Iliad, and in Xenophon and other Greek writers reference is made to the services rendered by surgeons in times of warfare. But neither in the Roman classics nor among the writings of the Greek physicians who practised in Rome are there any direct notices relating to the medical and surgical care of the numerous and scattered armies employed by Rome in different parts of the world. Celsus, it is true, lays down very distinct and practical precepts for the extraction of war weapons from the bodies of the wounded; but neither he nor Paulus Ægineta make any allusion to the appointment of physicians and surgeons as a part of the regular army. Bitter military experience, however, proved in ancient times, as it has often done in modern times, the necessity of having an efficient medical staff in connection with the armies in the field, and in no part of the world was this more clearly shown than in this part of Britain.

In times of war the devastation produced by sickness and disease was found to be greatly more formidable than the losses produced by conflict with the enemy. When the Emperor Septimius Severus attempted to subdue the whole of Scotland about the year 208 he led an army of not fewer than 80,000 men across the Forth, marched them north, and then returned to York. Although the enemy were never met in open fight, the Emperor is stated to have lost not fewer than 50,000 of his troops in this campaign. Such an experience

would naturally have its influence in suggesting to a people who were advancing in many branches of knowledge that the strength and success of their armies would be greatly increased by having medical officers to watch over the health of their soldiers. Some modern discoveries in this part of Great Britain and elsewhere have demonstrated that in the time of the Empire, at all events, the armies of Rome were provided with a medical staff. Among the many monumental tablets which have been discovered along the course of the great Roman wall there is surely none more interesting to us than one which was discovered a few years ago at Houseteads. The inscription shows that it was erected by the first cohort of the Tungrians to the memory of their "medicus ordinarius." This cohort distinguished itself under Agricola at the battle of Mons Grampius, and was afterwards engaged in the erection of a portion of the more northern Roman wall of Antoninus. At a later period, probably under the reign of Marcus Aurelius, it became stationed at Castlesteads in this county. According to the Notitia, this cohort was stationed at Borcovieus (Housesteads), where the monument alluded to, as well as several others, were erected by it. The translation of the inscription, according to the rendering of the learned historian of the Roman wall, Dr. Bruce, is as follows: "Sacred to the Gods of the Shades below. To Anicius Ingenuus, Physician-in-Ordinary of Cohort the First of the Tungrians. He lived 25 years." The elaborate nature of the carving on this monument affords strong evidence of the esteem and respect in which this young physician was held by his comrades. It is said to be more ornamental than many of the altars raised by this and other cohorts to the worship of their deities, and his name is worthy of mention to-day as that of the earliest member of our profession of whom we have any record as having lived and practised in the Border Counties.

LEPROSY AND LEPER HOSPITALS.

Another point in connection with the early history of the city is deserving of notice. One of the earliest institutions established for the reception of cases of leprosy in this country was placed just outside our city walls. It is not quite certain at what period leprosy was first introduced into England, but it must have been fairly common before the date of the Norman Conquest, as I find it the subject of legislation in the codes of a Welsh king, Hoela Dha, or Hoel the Good, who died about the year 950. In the laws relating to married women, it is enacted that a wife may leave her husband without losing her dower if the husband become a leper. It is reported that Lanfranc, Bishop of Canterbury, who died in 1080, founded two hospitals at Canterbury, one for general diseases and one for leprosy. Some years ago I investigated the records of the leper hospitals connected with the counties of Cumberland and Westmorland. These were three in number, but the Hospital of St. Nicholas at Carlisle was the wealthiest and most important. The earliest records of which I could find any notice take back its history to the year 1180. There is a general concurrence of opinion that it had a royal foundation, and some historians believe that it was founded by William Rufus. If this be so, it was one of the earliest institutions of the kind in this country. Leprosy seems to have been a fairly common disease in this part of

England, there being several hospitals for lepers in the adjoining counties of Cumberland, Westmorland, and Northumberland, three of which provided accommodation for 91 lepers.

In connection with this disease there is a local historical reference to which I may be permitted to allude. In the course of excavations some years ago at a famous Scottish abbey, the tomb of King Robert the Bruce was discovered, and unmistakable evidence was found in the skeleton of the great warrior that he had been subject to this disease of which we are speaking. The *Chronicle of Lanercost*, which deals with events of interest between 1201 and 1348, reports that the invasion of England in 1326 was not led by Bruce in person because he had become a leper, and a few pages further on it says: "Mortuus est Dominus Robertus Brus, Rex Scotiæ Leprosus."

EARLY LEGISLATION AGAINST RIVER POLLUTION.

At the close of the thirteenth and in the early part of the fourteenth centuries the city of Carlisle was the scene of many events in the history of this country. Here within our walls three parliaments were summoned by Edward I, the father of parliaments. Here, in this remote corner of the English kingdom, probably for the first time in the world's history, the question of river pollution was brought under the consideration of a parliament. The Earl of Lincoln came to the Carlisle Parliament to seek redress for the restriction of the channel of the river Thames, and its general condition, being so restricted by filth and refuse. The Earl prayed that "the Mayor, Sheriffs, and discreet Aldermen of London may inspect the river Thames, and restore it to its former condition." The matter having been considered, orders were given by Parliament that impediments to the course of the river caused by filth and the refuse of tanyards be removed. This early recognition of the evils of river pollution by a parliament met to consider the general business of the country is a striking testimony to the value attached to sanitary legislation by our ancestors, and the prompt action which was taken contrasts strongly with the tardy legislation of modern times.

THE PHYSICIAN OF EDWARD I.

It is probably known to many of you that the monarch, under whose auspices these parliaments were held, and who was famous alike as a warrior and as a wise legislator, died within a few miles of the city. His illness lasted several months. The infirm state of his health began when he was at Winchester during the season of Lent in 1306. Later on he began to suffer from dysentery, and spent the winter at Lanercost. When on his journey from York to Carlisle, his sufferings increased so much that on September 8th, Richard de Montpelier was ordered to proceed to London to procure remedies. The royal physician was Nicholas de Tyngewyke, and he was held in high esteem by the King, as may be gathered from the terms in which the King wrote of him to the Pope, when soliciting some ecclesiastical preferment. Writing on October 7th, 1306, Edward renews a request which he had previously made to the Pope in regard to the preferment of his "dilectus clericus—Magister Nicholaus de Tyngewyke, medicus noster utpote pro personâ honestæ vitæ,

bonæ conversationis, eminentis scientiæ, habilisque ad quamlibet dignitatem ecclesiasticam, nostro iudicio, obtinendam." With the help of his skilful physician the King's health was so far restored that he contemplated resuming the command of his forces in a fresh campaign against Bruce. About Midsummer Day in 1307 he made a solemn offering in the cathedral church of this city of the horses and litter which he had been accustomed to use, and on July 3rd he mounted his charger on his progress towards Scotland. The first day he could only ride two miles, dysentery, his old malady, again attacking him. The next day he managed to ride two miles further. After a day's rest the King reached Burgh by Sands on July 6th, about six miles from Carlisle, and here, on July 7th, in spite of all remedies used, his death took place.

In the Proceedings of the Commissioners on the Public Records of the Realm there is a list of the drugs ordered by the King's physician. The list includes distilled oil of turpentine, aromatic flowers for baths, carminative electuaries, plasters and ointments of various kinds, the oils of wheat ash, and bay, water of the roses of Damascus, wine of pomegranates, remedies prepared from pearls, jacinths, and coral and many remedies which I am unable to identify. The amount of the apothecary's bill for the medicine was £134 16s. 4d., and the cost of conveying the same from London to Carlisle amounted to £159 11s. 10d.

MEDICAL FEES IN THE MIDDLE AGES.

During the dark period of the Middle Ages there is little medical progress to record in connection with the history of the district. In common with other parts of the country medicine was here under a cloud, and we find abundant evidence of the faith in charms, witchcraft, and the miraculous gift of healing supposed to be the special attribute of the reigning monarch. Several persons suffering from the king's evil were certified by the clergy and churchwardens, or by the local justices, and sent to obtain the royal touch in order that they might obtain that restoration to health which the physicians of the day were powerless to give. Much of the ordinary medical practice was in the hands of irregular practitioners, and apparently a good deal of domestic doctoring was done by the heads of families. A few extracts from the account books of Sir Daniel Fleming, of Rydal, shows the value which attached to the services of regular and irregular practitioners. Under date of August 10th, 1658, there is an entry, "Given unto George Brown, of Troutbeck, a bonesetter, when Will was hurt, 00 02 06. August 11. Given unto William Story, of Seadgewicke, neare Sighser, bonesetter, for lookeing at Will's thigh, 00 07 06. August 12. Given unto John Rawling, a bonesetter for Will, 00 01 0." The services of these three irregular practitioners do not seem to have been of much avail, for the account book shows that a certain Dr. Dykes obtained "for comeing and laying plasters unto Will, 00 10 0"; and, at a later date, "for his plaisters and paines contributed towards the cure of Will the sum of 05 00 00." The same account books also show the value of the services of a midwife. Under date July 30th, 1659, there is this entry, "Given unto Daniel Harrison's wife for being my wife's midwife, 00 05 00."

The household books of Lord William Howard, of Naworth, contain many references of medical interest. It does not appear as if there were any medical practitioners of sufficient skill to inspire confidence in this distinguished nobleman resident in the immediate neighbourhood, and we find that on several occasions messengers were despatched to Keswick to seek the services of Mr. Adamson, an apothecary who practised there, and it sometimes took four days before medical help was obtained. On September 25th, 1612, Mr. Adamson was paid "for xxij dayes and his phisick xiiij vis. viij*d*." Medical services were not appraised very highly, and contracts were sometimes made. In the diary of Archdeacon Nicolson, an eminent local ecclesiastic who soon afterwards became Bishop of Carlisle, there is an entry under date of 1698 to the effect that the Archdeacon contracts with a Carlisle physician for professional attendance upon himself and his family for the sum of two guineas a year.

THE PLAGUE.

In the eventful history of our city the visitations of the plague have at times caused serious calamities; occasionally the disease has swept away such multitudes that the living were scarcely sufficient to bury the dead. One of the most notable epidemics was the great plague of 1598, which is alleged to have caused a mortality of 2,260 at Penrith, 2,500 at Kendal, 2,200 at Richmond, and 1,196 at Carlisle. These figures, which are taken from an inscription on a stone in the chancel of Penrith Church, have given rise to considerable controversy. The Carlisle parish registers do not go so far back, and the Penrith registers only record the deaths of 583 persons from plague at this period. It is therefore now believed that the numbers refer to the mortality in the rural deaneries bearing the above-mentioned names. Another great plague occurred in many parts of the county in 1623, and a third occurred in 1646. Of the former we find evidence in many local parish registers, but of the latter we have few particulars. The historical MSS of the mayor and corporation of Carlisle, under date 1649, contains the following reference: "It is ordered that John Diffecke, bellman, shall have forthwith paid to him.....the sume of forty shillings in consideration of his labour and paines during the time the heavy judgement of Plague continued in this place in the year 1646." The circumstances of the town about this period were such as to make an outbreak of the plague exceedingly probable. The citizens had suffered much from wars for a series of years. In July, 1644, it was seized by Royalists, and was besieged by Lesley in October, the siege lasting many months. It had a garrison of about 700. About the end of February all the corn was seized to be served out on short allowance. On June 5th "hempsced, dogs, and rats were eaten." All Cumberland was in such a state of destitution that Parliament ordered a collection for its relief; numbers of the poor are said to have died in the highways, and 30,000 families were in want of bread.

During the Visitations of the plague in this district, two bishops of the diocese fell victims to the disease. Bishop Maye died in 1597 at 8 o'clock in the morning, and was buried the same evening in the Cathedral. Bishop Robinson, who succeeded him, contracted the disease, died at Rose Castle on

June 19th, 1616, at 3 o'clock in the afternoon, and was buried the same evening in the Cathedral. The speedy burial of these distinguished prelates is an evidence of the importance attached to early burial as a prophylactic against the spread of the disease. Another notable person who died from the plague was the first wife of Sir Francis Howard, and it is worthy of mention on account of the way in which she contracted the disease. In a letter from Henry, Lord Clifford, to Secretary Conway, dated September 10th, 1625, it is stated: "The plague is gotten into my Lord William Howarde's house, and the first that dyed of it was Sir Francis Howarde's lady, whoe tooke the infection from a new gowne she had from London, soe as she dyed the same day she tooke it; whereupon they all dispersed most miserably, with the greatest terror in the worlde, since they had all been with the lady, and all in danger by that meanes."

SANITARY ADMINISTRATION.

In the evolution of its sanitary administration, progress has been somewhat slow in Carlisle. During the Middle Ages, the government of the town was first vested in the free merchants' guild, which in later times became the town council. The Governor or Dormont Book, which bears the date of 1651, contains a code of by-laws for the government of the city, and among them are many useful sanitary edicts. It is ordained that, "If any person or persons hereafter caste any maner of corruption as deyed dogs, cattis, nolt hornes, or any other thinge corrupte in any of the common wells of the city, or do place any midden or dunghill towards any of the said wells or within twelve feet thereof, he is to be fined for every offence 6s. 8d. to be levied of his goods, or else to be extremely punished by the Mayr as of the pillorie or otherwise." Swine are not allowed on the common streets; for the first offence the penalty is 6d., for the second 12d., and for the third the swine are to be forfeit to the "Mayr and balif." Penalties are also ordained against inhabitants who fail to keep the forefront clean to the middle of the pavement, and middens and dunghills are to be cleared away within eight days.

The Chamberlain's accounts of the city contain several items of expenditure for cleaning the town dykes, removing dead animals, etc., and during times of pestilence special precautions were taken to prevent the introduction of the disease. The following is the heading of one of the accounts: "Disbursements in attending the gaittes in the time of the seakness being at Newcastle beginning the iii of August, 1603."

Our civic rulers probably varied from time to time their sanitary regulations, but their efforts in preventing the introduction and spread of epidemic diseases do not appear to have met with much success. The voluntary efforts of independent citizens had greater results. Soon after the establishment of the House of Recovery or Fever Hospital the attention of those connected with its management seems to have been directed to the condition of the "fever dens" in the city, and in the earlier reports mention is made of steps taken to remove sanitary blots. Voluntary committees of inspection were appointed, and simultaneous and systematic inspection of every part of the city was made by a number of organised committees. These biennial or triennial inspections appear to have originated in Carlisle, and Dr. George

Buchanan, in the ninth report which Mr. Simon presented to the Privy Council in 1867, calls special attention to the influence which they exerted. "When Carlisle was perambulated by an officer of police as nuisance inspector," says Dr. Buchanan, "we have three times as many cases of fever as when the town was systematically and simultaneously inspected in small sections by an equal number of organised committees." Having taken part in several of these inspections I can bear willing testimony to their value.

In 1874, however, voluntary agencies were superseded and a regular sanitary administration established. A medical officer of health was appointed, who has since published annual reports of the health of the city. From these reports it is possible to judge of the results to some extent of sanitary administration by comparing them with previous periods. The earliest data upon which any reliance can be placed are the bills of mortality drawn up by Dr. Heysham. In the eight years between 1779 and 1787 there were 1,615 deaths, being at the rate of 24.9 per 1,000. In 1788 to 1795 the rate rose to 26 per 1,000, while from 1796 to 1800 it was only 23.3. In the ten years from 1800 to 1810, with the average population at 12,660, the death-rate was again 23.3 per 1,000. It was upon these tables that the Carlisle tables of mortality were founded, which afterwards became so much used by life assurance offices. The complete tables of the first period are the only ones to which I have had access. The most fatal disease in the list is small-pox, which caused 238 deaths. Consumption was the cause of 214 deaths, 204 deaths were due to the weakness of infancy, and 226 are set down to the decay of age. There were 493 deaths due to what we should now classify as zymotic diseases. Between 1842 and 1848, with an average population of 24,000, the death-rate varied from 24.25 to 43.92 per 1,000. Since the publication of the reports of the medical officer of health there has been a steady fall in the death-rate. In 1874 it was 32.6; in 1875 it was 29.2; and in 1889 it had fallen to 18.1. In 1874 the zymotic rate was 11.3; last year it was only 0.8.

The fact that Carlisle was in former times a walled city, in which the inhabitants were compelled to dwell within the walls, that large numbers were aggregated together in courts and narrow lanes, and that it was a centre upon which a great number of roads converge, bringing tramps and vagrants from all parts, rendered the city particularly liable to outbreaks of infectious disease. Epidemics of typhus fever were extremely common. The last severe epidemic was in 1874-75, and 126 deaths were registered as due to this outbreak. During the last twenty years the disease has on several occasions been imported, but its spread has been speedily checked. Enteric fever is much less prevalent than formerly. During the first seven years after the establishment of a duly constituted sanitary administration there were 99 deaths registered as being due to this cause. In the seven years following the number of deaths was 63, and during the last seven years it has fallen to 15.

SMALL-POX AND VACCINATION IN CARLISLE.

The mortality from small-pox at the end of the last century was extraordinary. It accounted for nearly 1 out of every 7 deaths in Carlisle. Now the disease is almost entirely unknown. During the last twenty years, out of 15,664 deaths

registered in Carlisle, only 4 were due to small-pox, or 1 in 3,916. The last severe epidemic was about twenty-five years ago. It began in March, 1871, and lasted until June, 1872. There is no record of the actual number of cases, but during that period a large proportion of the adult population was revaccinated. The lessons of the epidemic had an abiding influence. Public interest was aroused in the work of the Fever Hospital; steps were taken which led to better provision being made for the isolation and treatment of infectious diseases, and urgent representations were made as to the necessity for enforcing primary vaccination, and the advantages to be derived from revaccinating all who have been exposed to risks of infection.

Since that period Carlisle has been a well-vaccinated community, and although there have been several occasions when the disease has been introduced, it has never spread. This is due to the admirable manner in which primary vaccination is carried out. I am indebted to the courtesy of the public vaccinator for a table showing the results during the last five years. Out of 6,678 births in Carlisle, only 103 children are not accounted for; 12 have gone into other districts, and have certificates of unfitness; 54 have certificates postponing vaccination; 697 died unvaccinated; 11 are certified as being insusceptible; and the remainder (5,801) have been certified as being successfully vaccinated. With regard to the certificates of insusceptibility, the public vaccinator tells me they must all have occurred in the hands of private practitioners, as during his sixteen years tenure of office he has never met with a single instance of insusceptibility.

Number of Births Registered in the City of Carlisle for the years 1890-1-2-3-4, showing the Number of Successful Vaccinations by the Public Vaccinator and Private Practitioners.

Year.	No. of Births.	Successfully Vaccinated.		Insusceptible.	Dead. Unvaccinated	Gone in- to other Districts.	Post-pon'd	Not Ac- counted for.
		Public.	Private.					
1890	1,283	621	491	1	147	1	1	21
1891	1,285	556	579	2	120	6	7	15
1892	1,284	564	567	2	124	1	10	16
1893	1,473	649	599	3	175	3	14	30
1894	1,373	556	619	3	131	1	22	21

WATER SUPPLY OF CARLISLE.

The water supply of Carlisle is in the hands of the Corporation. It is obtained from the River Eden, the intake being about a mile above the city. The works were originally constructed in 1847 by a joint-stock company, but were acquired by purchase by the Corporation in 1866. Ten years ago extensive additions were made. The water is admitted into a subsiding reservoir, and is passed through six layers of filtering material, five of which consist of layers of stones or pebbles

varying from 4 to 8 inches in diameter to $\frac{1}{4}$ of an inch in diameter, and the sixth layer consists of fine sand 2 feet 6 inches deep. The supply is abundant, and has been reported upon from time to time as a pure and wholesome water suitable for drinking and other domestic and manufacturing purposes. As a river supply it is necessarily subject to contamination, there being a considerable population on the drainage area above the intake, but there has never been in Carlisle a case of cholera, enteric fever, or other zymotic disease attributed to the drinking of Eden water. The Water Committee, however, are fully alive to the importance of obtaining by gravitation an adequate supply from a source which would be beyond the reach of contamination, and several schemes have been under consideration. As yet, however, no practical steps have been taken towards their realisation.

The sewage problem at Carlisle is one which has been the subject of anxious consideration. The city was one of the first towns in the kingdom to be provided with a complete and efficient sewerage system. This was upon a scheme which was prepared by and carried out under the direction of Mr. (after Sir Robert) Rawlinson about forty years ago. The main outfall sewer is laid at a gradient of 1 in 943, equal to a fall of 46 feet per mile, and empties itself into the River Eden, below the city. Complaints of pollution have been made by the Eden Fishery Board, and these complaints have led to inquiries and investigations, which are still pending. 5-6

RECENT SANITARY IMPROVEMENTS.

Many important sanitary improvements have been carried out in Carlisle during the last few years, and it is a pleasure to state that the local authority which has charge of the sanitary administration of the city appears to be fully alive to its responsibility. Several insanitary areas have been scheduled in the course of town improvement; many noted "fever dens" have disappeared; several streets have been widened; the greater part of the town has been repaved; public playgrounds have been provided for children in several parts of the city; all private ashpits have been abolished; an improved method of house-refuse disposal has been adopted; all private slaughterhouses have been closed, and public slaughterhouses have been erected; better provision has been made for the isolation and treatment of infectious diseases; and further schemes for improving the city are under consideration.

MEDICAL WORTHIES OF CUMBERLAND.

There are many great and distinguished men whose names are associated with the county of Cumberland. Of those who have become famous in other professions I need not speak, but of some of those who have contributed to the advancement of medicine a few words will surely not be out of place on the present occasion. It is a singular fact that while many have attained distinction as physicians, there are few who have become eminent as surgeons. It will be impossible within the limits of time at my disposal to give either a full list of those who have their names inscribed on the scroll of fame, or to give full details of the lives of such as I may mention.

In the last century several Cumbrians obtained a distin-

guished position as physicians in London. Dr. John Cuningham was appointed Physician to the London Hospital in 1742; Dr. Addison Hutton was elected Physician to St. George's Hospital in 1736; Dr. John Relph became Physician to Guy's Hospital in 1789; Dr. John Leake was the founder and first physician to the Westminster Lying-in Hospital; Dr. William Woodville, an accomplished medical botanist, was Physician to the London Small-Pox Hospital; and Dr. John Walker was the first resident vaccinator of the Jennerian Society. The most distinguished Cumberland physicians of that period were Dr. William Brownrigg and Dr. Heysham. The former was distinguished both as a chemist and as a physician. He began practice as a physician at Whitehaven in 1741. His researches in several particulars were parallel with those of Priestley, Black, and Cavendish. He contributed several papers to the *Philosophical Transactions*, was a Fellow of the Royal Society, and received the Copley medal for some chemical inquiries. He was a mental philosopher of great power, and his scientific attainments were acknowledged by the most eminent men of the day, by whom he was held in high esteem.

Dr. Heysham, although not a native of Cumberland, spent the whole of his medical life here, and his name is widely known as that of a distinguished physician. Born at Lancaster in 1753, he settled in Carlisle in 1778, and died in 1834. He had only been here a few months when he meditated a census of the inhabitants and the framing of bills of mortality. By carefully recording from week to week and month to month the births, marriages, diseases, and deaths of the people he gradually accumulated the data upon which the Carlisle tables of mortality were based. At that time life assurance was in its infancy, and the value of Heysham's labours may best be exemplified by a reference to the serious errors which arose from incorrect observations and records made elsewhere. The credit of having drawn up the first English mortality tables belongs to a Unitarian preacher, Dr. Price, of Northampton. He employed the registers of births and deaths of the town in which he lived, but in constructing his tables he altogether overlooked the fact that a considerable number of Baptists lived in the town who did not sanction infant baptism. This oversight led him to the conclusion that the population of Northampton was stationary, and he seriously underestimated the life duration of its inhabitants. Two illustrations of the importance of this error may be quoted. The Equitable Society, which first used the Northampton table, found that their mortality was one-third less than the table predicted. The Government also adopted the table as the basis of its annuity schemes, and the same error which gave the Equitable and other societies one-third too much premium induced the Government to grant annuities which were larger by one-third than they should have been for the amount charged, and before the error was rectified two millions of money were lost to the country by these annuity transactions.

The value of the Carlisle tables was speedily recognised, and one by one the leading life assurance companies, both in this country and in America, adopted them as the basis of their calculation. Professor De Morgan in 1830 pronounced them to be the best existing tables of healthy life which have been constructed in England, and Dr. Farr, in the fifth

report of the Registrar-General, 1843, says: "I avail myself of this opportunity to pay my humble tribute to the fairness of the Carlisle tables; to Dr. Heysham, who collected the facts with so much care; and to Mr. Milne, who cast these facts so judiciously to the purposes of life insurance." During the last few years these tables have been to a great extent superseded by the "English life tables," based on thirty years' observation, and on data obtained from the records of mortality over the whole kingdom. A comparison, however, of the two tables shows that they differ very little from each other, and the striking fact remains that all properly conducted offices which adopted the Carlisle tables have met their engagements, and for the most part had very large surpluses to spare. In addition to his work in connection with the tables of mortality, Heysham has many other claims to consideration. Three years after settling here he succeeded in establishing a public dispensary for providing the sick poor with the advantages of medical relief. He published an essay on gaol fever, founded upon his observations during an epidemic which prevailed in this city in 1781. About 600 persons were attacked, and nearly 1 in 10 of those attacked died. The treatment which he adopted and successfully pursued appeared to differ from that which had hitherto been the usual practice. Previous to that period few British physicians had the courage to order good food and good wine in cases of typhus. Instead of bleeding his patients Heysham found that by a copious and liberal use of tonics, cordials, stimulants, wine, and bark, the pulse became stronger, the thirst and pain in the head abated, the delirium was removed, and the patient got refreshing sleep. It was fifty years later before these views in regard to the treatment of fevers became generally accepted. Heysham was also a keen naturalist, and his researches in natural history obtained for him the distinction of being elected a member of the Linnean Society, a distinction which was quite unsolicited and quite unexpected.

Among Heysham's contemporaries there were several who attained a high position in professional and public circles. Dr. Thomas Blamire was a prominent citizen in Carlisle, and held in high esteem by his fellow citizens. He was for many years a colleague of Heysham's as physician at the Carlisle Dispensary, and he filled the office of Chief Magistrate of the city during six years. Dr. Hugh James was widely known in the early part of this century as the blind physician of Carlisle. He practised as a surgeon for some years at Whitehaven, but failure of eyesight supervening, he studied medicine, and graduated at Edinburgh in 1803. Three years later he became totally blind, but he continued to practise with great success until 1817, when he died from an attack of typhus fever. Dr. Robert Harrington, a prolific writer on chemistry and natural philosophy, was admitted a member of the College of Surgeons in 1781, and was in practice here in 1815. He was a great believer in phlogiston, and attempted by his writings to discredit Lavoisier's theories of combustion and other discoveries. Sir Joseph Dacre Appleby Gilpin was a native of Carlisle, served his medical apprenticeship here, joined the army, was knighted for his services in arresting the spread of a pestilential fever while on foreign service, settled here in 1806, and was four times elected to fill the office of Mayor of the city. Sir Simon Heward, F.S.A., who

resided here for many years, though not engaged in active practice, served his country with great distinction in India, and received the thanks of the Government. He died in 1846. Dr. Thomas Barnes, the founder and first physician of the Carlisle Fever Hospital and of the Cumberland Infirmary, came to Carlisle in 1817. He was the author of many contributions to medical literature, including a biography of Dr. William Jackson, published in the third volume of the *Transactions* of the Provincial Medical Association. He was elected a member of this Association in 1835, and in 1868 he was elected the first President of the Border Counties Branch, on which occasion he gave a forcible exposition of the waves of medical thought and practice which had passed within the scope of his recollection. He was elected a Fellow of the Royal Society of Edinburgh in 1827, and died on March 31st, 1872.

Dr. Thomas Addison was descended from a family of yeomen who had settled for many generations at Lanercost in this county. He was born in 1793, and became full Physician to Guy's in 1837. Although his fame with posterity will mainly rest on his discovery of the previously unsuspected disease of the suprarenal capsules which now bears his name, his contributions to the anatomy and pathology of the lung, to pneumonia, pneumonic phthisis, and phthisis are of scarcely less value and originality. Dr. Wilks says that the essay on suprarenal disease is as nothing compared with what he did during a long series of years in the elucidation of phthisis and some other diseases. It was not a mere scientific discovery but his powerful lectures which impressed the last generation of Guy's men. He died in 1860, and was buried at Lanercost Abbey. On the western wall of the chancel there is a tablet to his memory.

Among those of a later generation time will not permit me to say much, but the record of their work shows that they are no unworthy successors of the distinguished men of whom I have been speaking. The late Mr. William Bousfield Page, the first surgeon of the Cumberland Infirmary, was widely known as an experienced surgeon, and held a leading position in the North of England for a long period. He was one of the first of British surgeons to perform the operation of excision of the os calcis, and was among the early surgeons to adopt ovariectomy. His brother-in-law, Dr. Goodfellow, was for a short period Physician to the Cumberland Infirmary, and afterwards became Physician to Middlesex Hospital, in London. Dr. Henry Lonsdale, the biographer of Goodsir and Knox, the anatomists, and the author of many other biographies, succeeded Goodfellow as Physician to the Cumberland Infirmary, and held the appointment for twenty-two years. Dr. Robert Elliot, a distinguished sanitary reformer, the first medical officer of health for Carlisle, was for many years coroner of the city, and took an active interest in all that related to its welfare. Dr. W. H. Dickinson, of Workington, was the first to diagnose and record an outbreak of trichinosis in the human subject in this country. Dr. Michael W. Taylor, of Penrith, widely known as a distinguished archæologist, was also a prominent member and the second President of the Border Counties Branch. He contributed many papers to our meetings, and to his clinical sagacity and acute powers of observation is owing the knowledge that epidemics of enteric fever and scarlatina may be

caused by a contamination of the milk supply—a knowledge which has already been of such immense service in the prevention of disease.

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL REFORM.

There is one other Cumbrian whose name will recall many pleasant memories. In the British Medical Association Dr. Francis Sibson was for many years a prominent figure, and it would be hard to name any man who has rendered better service to the Association, who had a more single-minded and enthusiastic devotion to its interests, and who was more justly and widely esteemed by its members. He was born near Maryport in this county, he joined the Association in 1843, he delivered the Address in Physiology at Worcester in 1850, and in 1870 he read the Address in Medicine at Newcastle. As a hospital physician and clinical teacher he was greatly esteemed, and his writings bear evidence of careful and exhaustive investigation. In 1866, when the death of Sir Charles Hastings, our distinguished founder, rendered vacant the office of President of the Council, Dr. Sibson was unanimously called upon to take his place. To his sagacity and sound judgment, to his great natural aptitude for business, and his clear perception of right principles of action, the success of his tenure of office was mainly due. It was during his tenure of office that a subcommittee was appointed "to consider the mode by which the profession at large may be represented in the General Medical Council." When the Association became more prosperous, owing to its increase in numbers and improvements in its general management, it was at his suggestion that in 1874 the proposal was made to apply a portion of the surplus funds in grants for scientific research. The growth and development of the Association during the last thirty years has been one of the most remarkable events in connection with the history of the medical profession; and it is surely not out of place to remind the first meeting of the Association which has ever been held in Cumberland that a Cumbrian was at the head of its affairs when this rapid increase in its growth began.

The work which Dr. Sibson did for the Association and for the profession was of the utmost value. He took an active part in the work of medical reform; unhappily, he did not survive to see his work bear fruit. Ten years ago the Government granted a small measure of direct representation, and the direct representatives then elected are entitled to our warmest thanks for the admirable way in which they have devoted themselves to their duties. Their efforts are, however, to some extent frustrated by the deficiency in their numbers. Their appointment in the first instance was a concession to an oft-repeated demand backed by the almost unanimous voice of the profession. For some years it has been obvious that an increase in their numbers must be obtained, but this can only be done by organised effort on part of the Association through its Council and its Branches. Some amendment of the Medical Acts is also urgently required on public grounds. Daily experience shows that this is necessary, the law as it stands being not sufficient to protect the public against unqualified practitioners.

The question of the improvement, training, and restriction of midwifery nurses or midwives is one to which much attention has been devoted, and it is one which calls for a speedy

settlement on a satisfactory basis as much in the interest of the public as of the medical profession.

The present unsatisfactory state of the law relating to certificates of death and coroners inquests has often been under consideration, and steps must soon be taken for its amendment.

The compulsory registration of stillbirths is another matter of urgent necessity. These are all matters in which the public is as much, or even more, concerned than the profession. These and other matters in which the profession is mainly concerned—such as the organisation by the Association of ethical committees and the question of medical defence, questions of primary importance—demand our earnest consideration. Free discussion in meetings like the present lead to more definite views of public and professional requirements. In unity there is strength. We must not waste time in idle talk: let us agree on general principles and the force and influence which this great Association wields will be irresistible.